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EXAMINER

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ART UNIT	PAPER NUMBER
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2000

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/339,616

Applicant(s)

MARK ALLEN

Examiner

Tuyet Vo

Group Art Unit

2821



☒ Responsive to communication(s) filed on June 08, 2000.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-9 and 11-28 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9 and 11-28 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

REMARKS

This office action has been extended as a response to applicant's request for reconsideration made via a telephonic interview with Mr. Rolf Hille, Group Director of 2800. The finality of the previous office action is effectively withdrawn as of the issuance of this office action. Entry of the response after final filed June 08, 2000 has also been permitted. Upon entry of the amendment filed January 04, 2000, claims 1-9 and 11-28 remain pending.

Drawings

Applicant was noted that the drawings have been objected by Notice of Draftperson's Patent Drawing Review and agreed to submit formal drawings as receiving notice of allowable subject matter.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 9, 14-16 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over 5,941,626 (Yamuro).

Yamuro discloses in Fig. 1B an electronic circuit powering a predetermined number (6) of light emitting diodes (4) electrically coupled in series to form plurality of series blocks (4,5) in parallel, wherein the first LED and the last LED in one series block directly coupled to an intermediate pair of wires via a resistor (8) which are electrically connected to an alternating current power supply (9) by connectors (2, 3), the LEDs in series blocks are connected in polarity thereby coupling of multiple light strings in an end-to-end straight arrangement relatively to a wire axis, whereas there are approximately 50 LEDs in series block are uniformly spaced apart (Fig. 1B) (col. 3, lines 10-45).

Even though this figure shows one end of the diode block being tied to the source via the resistor, by its natural layout, it fulfils applicant's definition of having this block directly ties to the source. During operation, this resistor also serves the electrical conducting function which would allow the current to flow directly from one end to another without a detour passage.

Alternatively, the claimed invention has been viewed as an obvious variation in design choice over Yamuro in view of the fact that line 37, column 3, in this teaching clearly lays out a desire for doing away with the resistor connection if needed. Even though figure 1B shows the usage of a resistor to stabilize the operation of the system, it's teaching, however, specifically leaves the option of using this resistor to one of ordinary skill in the art. In the interest of making the design of this circuit feasible, one of ordinary skill in the art would have considered it a routine design choice to alleviate this resistor. Applying the design without the resistor as suggested in a massive production environment, this would mount up to a considerable saving in the production

line.

Claim Rejections - 35 USC § 103

3. Claims 4, 6-8 and 21-24 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamuro in view of Reymond (US Pat. 5,936,599).

Yamuro discloses substantially the claimed invention as noted above. However, Yamuro does not teach an electrical power supply provides alternating current having an alternating current voltage in the range of about 110V- 220V operated in at least 50 Hz. Reymond discloses an electronic apparatus for AC powered light emitting diode comprising an AC power source of 120 V at 60 Hz supplied to the LEDs load.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the wide range power source taught by Reymond into Yamuro's lighting circuit for improving of adaptable capability with widespread standard power supplies.

Since human eyes perceive lighting as continuous for a light that emits at frequency above 4Hz, therefore, lighting emitted from LEDs which operate with a frequency about 60Hz definitely not being noticed by human eye as discontinuous lighting.

Even though, neither Yamuro nor Reymond discloses the number of LEDs in a series block is 100. The quantity of LEDs represented as a load are obvious a design choice to one having ordinary skill in the art, since they involved only routine skill in the art. In particular, an AC electric power source supplies 110V to operate 50 LEDs in series block, then it is obvious that 100 LEDs connected in a series block would be operated safely with an ac voltage supply source of 220 V for the same type of LED.

4. Claims 11, 12, 17 and 18 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamuro.

Yamuro discloses substantially the claimed invention as noted above. However, Yamaru does not teach as following:

- LEDs in each series block are either of the same colors or of different colors in random

or non random order,

-the length relative to the LEDs blocks are spaced either uniformly or not in either a periodic or pseudo-random arrangement,

Colorful LEDs coupling in the above manner for aesthetical purposes are an obvious matter of design choice to one having ordinary skill in the art, since the arrangement of LEDs having different colors in any pattern involves only routine skill in the art.

4. Claim 5 is rejected under 35 U.S.C. 103 (a) as being unpatentable Yamuro in view of Reymond.

Yamuro in view of Reymond discloses substantially the claimed invention as noted above except that each LED has a p-n defining a break down voltage above which voltage applied in reverse bias the p-n junction break down, and in which light string having the alternating current voltage is less than the break down voltage. Applying a reverse bias voltage across each LED into the p-n junction of a LED less than the break down voltage of LED is an obvious expedient of one having ordinary skill in the art, since it ensures a current through diodes in an operating region called a forward current which must have its peak voltage safely below breakdown voltage or manufacturer 's rating, otherwise, the significant reverse current entered from the cathode to the anode of the diode at the AC power supply above a break down voltage will destroy the diode device due to undesired heat generated from that unlimited current.

5 Claims 13 and 28 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamuro in view of Frohardt et al. (US Pat. 3,758,771), hereinafter Frohardt.

Yamuro discloses substantially the claimed invention in claims 1 and 11 as noted above. However, Yamuro does not teach a lossy fiber optic rod having a diameter equal to a diameter of a corresponding LED lens within a fiber house for creating an optical icicle feature. Frohardt discloses Fig. 2 an illuminated wig using bundles of optical fibers (30)

conduct illumination of a light emitting diode (16) within the house (32). Even though, Frohardt does not teach a lossy fiber optic rod having a diameter equal to a diameter of a corresponding LED lens, Frohardt's invention does not limit a length, size, shape, type or material in using optical fibers (col. 3, lines 1- 47), therefore it is an obvious design choice to one having ordinary skill in the art at the time the invention was made to facilitate Frohardt's teaching into Yamuro's apparatus by selecting the size, material of optical fibers such as a fiber optic rod type caused loss or diffusing the transmitting light or one large enough for transferring completely one LED light for particular application, such selection or making of use is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

6. Claims 19, 20, 26 and 27 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamuro in view of Chang et al. (US Pat. 5,887,967), hereinafter Chang.

As noted above, Yamuro teaches every feature of the claimed invention except for the particular mounting structure of which a keyed offset. Chang teaches a mounting structure with a keyed offset to ensure proper alignment between a bulb holder and the base of the bulb.

To prevent incorrect insertion of the bulbs, one of ordinary skill in the art would have considered it obvious to improve the mounting structure of Yamuro lighting bulbs with Chang's alignment system. In doing so, proper operation of the lighting system is a guarantee. Applicant's argument asserting the differences between the claimed invention and Reymond and Tong has been thoroughly considered but is now moot in light of the new ground of rejection. The argument asserting the differences between the claimed invention and Chang is disagreed. In particular, applicant alleges that the dint in Chang fails to assure a correct alignment in the same manner as claimed. In supporting this argument, the dint in Chang has been alluded as being formed for mere visual alignment without encountering the possibility of human error. This argument has not been found to persuasive in view of the following.

Much like the keyed offset as defined by the claimed invention, the dint (21, 31) and lead (41) in Chang do prevent incorrect insertion of the bulb into the base holder. Even though Chang does not specifically mention that such an alignment mechanism would ensure correct polarity,

nonetheless it is implied that incorrect insertion of the light bulb into the holder would render the light system inoperative (col. 2, lines 1-14). Based upon the strict insertion requirement, matching polarity between the holder and the base upon insertion is an implicit feature found in Chang.

Response to Argument

7. Applicant's argument filed on June 08, 2000, basically holds Yamuro deficient in anticipating the claimed invention under 35 U.S.C. § 102 (e) by insisting upon the absence of the claimed invention found in this reference. In particular, this argument has been built upon the premises that the circuit in Yamuro requires a resistor to be operatively stable; whereas the claimed invention, notably cited in independent claim 1, sets forth a circuit which requires to no such a resistor to be operatively stable. Based upon this alleged distinction, Yamuro is held to be defective in supporting this rejection. However, this argument has not been found to be persuasive. In fact, a close scrutiny of Yamuro, particularly line 37, column 3, shows that the claimed invention as defined by independent claim 1 is nothing more than the very circuit which has been suggested to be operatively stable in Japan. Despite the fact that Yamuro went on in detailing the analysis of a circuit shown in figure 1B, the teaching supported by line 37, column 3 clearly suggests the removal of the resistor (8). From this teaching, the requirement of this resistance varies greatly depending upon the environmental applications. Specifically, if one were to construct figure 1B to be used in Japan, a resistor (8) would have been inherently eliminated as clearly pointed out by this teaching. Under this environment, the circuit shown in figure 1B is every bit identical to that of the claimed invention. Thus, holding Yamuro deficient in anticipating the claimed invention is clearly erroneous.

In an alternative attempt to show impropriety in the examiner's rejection, applicant cited, in the bottom portions of pages 3 and 4, that to fully qualify a reference under 35 USC § 102, one must read the teaching as a whole in forming the rejection. This attempt proceeded to purport a failure in the examiner part in reading Yamuro as a whole. It is agreed that in supporting a rejection under this statute, one must read the entirety of the reference without placing an undue

interpretation beyond its teaching. As such, in a direct contradiction to applicant's attempt, the examiner read the reference as it should be read mandated by this statute. And that is, given the power situation in Japan as it is suggested under line 37, column 3, one could not help but to construct the circuit without the resistor (8). Upon eliminating of this resistor (8) as suggested by this teaching, one would have ultimately arrived a circuit that is identical to the invention claimed.

As for applicant's comments regarding Raymond, Frohardt and Chang, the examiner agrees that these references do not show the circuit as cited by claim 1. However, the examiner disagrees that, taking in combination with Yamuro, these references fail to render the claimed invention obvious. In fact, all features found in the remaining dependent claims of this application could be construed from the combination of these references in the manner as particularly detailed in the above rejections.

Finally, without conceding to the improprieties cited in applicant's argument, the earlier rejection as well as its finality have been withdrawn to allow an opportunity to offer this counter argument.

Citation of pertinent prior art

8. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Rapisarda (US Pat. 5,649,755) discloses elongated, decorative, flexible light-transmitting assembly.

James et al. (US Pat. 4,420,251) disclose an optical deformation sensor.

Yeh (US Pat. 5,639,157) discloses a decorative string lighting system.

Hayashi et al. (US Pat. 3,950,738) disclose a semi-conductor-volatile optical memory device.

Chen (US Pat. 5,962,971) discloses LED structure with ultraviolet-light emission chip and multilayered resins to generate various colored lights.

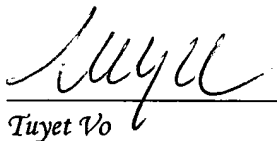
CONCLUSION

Any inquiry concerning this Office Action from the examiner should be directed to Examiner Tuyet Vo whose telephone number is (703) 306-5497.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Papers related to Group Art Unit 2821 applications only may be submitted to Group Art Unit 2821 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT."

The Group 2810 Fax Center number is (703) 308-7722.



Tuyet Vo

Examiner

Art Unit 2821

August 22, 2000



**DAVID VU
PRIMARY EXAMINER**